

TAT-CN21

## Chemical Properties

CAS No. :

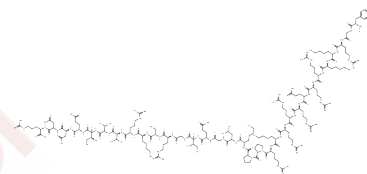
Formula: C169H303N69O43

Molecular Weight: 3989.65

Keep away from moisture

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



## Biological Description

Description	TAT-CN21 is a potent and highly selective inhibitory peptide for CaMKII with an IC50 of 77 nM. This product achieves cell permeability through the TAT sequence (YGRKKRRQRRR), effectively blocking the catalytic activity of CaMKII and its interaction with the NMDA receptor subunit GluN2B. It plays a critical role in modulating excitotoxicity, reducing glutamate-induced neuronal damage, and serves as a core pharmacological tool for researching ischemic brain injury, neurodegenerative
Targets(IC50)	CaMK
In vitro	In primary hippocampal neurons, TAT-CN21 (1-20 $\mu$ M) significantly reduces glutamate-induced excitotoxic death by inhibiting CaMKII substrate phosphorylation and disrupting pathological CaMKII-GluN2B complex formation, with efficacy dependent on administration timing [1].
In vivo	In pharmacological studies using preclinical models of cerebral ischemia, systemic or central administration of TAT-CN21 modulates CaMKII-dependent signaling pathways; the treatment reduces neuronal loss and maintains cognitive or motor functions in stroke models [1].

## Solubility Information

Solubility	H2O: 40 mg/mL (10.03 mM), Sonication is recommended. ( $< 1$ mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

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	<b>1mg</b>	<b>5mg</b>	<b>10mg</b>
1 mM	0.2506 mL	1.2532 mL	2.5065 mL
5 mM	0.0501 mL	0.2506 mL	0.5013 mL
10 mM	0.0251 mL	0.1253 mL	0.2506 mL
50 mM	0.005 mL	0.0251 mL	0.0501 mL

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Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

Ashpole NM, et al. Excitotoxic neuroprotection and vulnerability with CaMKII inhibition. Mol Cell Neurosci. 2011 Apr;46(4):720-30.

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